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when the earlier observation was confirmed on two nights. March 5 and May 27, 1910. The three measures give:—

1909.420	5°.3	0″.21	1 night
1910.288	14 .0	0 .22	2 nights

As the two components differ a full magnitude in brightness, there is no question as to the correctness of the quadrant.

HUSSEY, in his catalogue of the Otto Struve stars, and BURNHAM, in his General Catalogue, pronounced this star probably single, as it had not been seen double in any large telescope except on one night in 1875, when HALL and HOLDEN, using the Washington 26-inch, suspected elongation in 70° or 80°. BURNHAM failed to see it double with the 18½-inch telescope in 1879, as did SCHIAPARELLI, in Milan, in 1881, 1888, 1889, and 1890. In 1898 and 1899 it was examined by HUSSEY and myself with the 36-inch under excellent conditions and showed no evidence of duplicity. The early measures by OTTO STRUVE, from 1843 to 1853, gave discordant angles ranging from 105° to 152°.

In view of these observations, positive and negative, there seems to be no doubt of the fact that OΣ 251 is a binary star in comparatively rapid orbital motion. It would certainly have been seen double in 1899 if the components then had been as well separated as they are now.[1] R. G. AITKEN.

June 9, 1910.

THE AQUARID METEORS.

On the morning of May 4th, while working at the Crossley dome, quite a number of meteors were seen in the southeast by both Dr. CURTIS and myself. Remembering that the η Aquarid meteors, to which most of these obviously belonged, came to a maximum about this date and were supposed to be connected with Halley's Comet, I began to plot the paths of all seen. As a consequence, a good radiant was secured from six meteors, all quite well plotted. Observations on May 5th failed to supply more than two meteors that were certainly members of the stream. On May 11th, however, another radiant in *Aquarius* was secured from six meteors. Observations on May 13th again failed to supply more than one or possibly two Aquarids. None were seen May 18th, though carefully looked for.

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[1] OΣ 251 is B_0 D. + 32°.2250, 7.9 magnitude. B_0 D. + 32°.2252, 7.4 magnitude, is 56s following and 2′ north. It is, of course, possible that the latter star was examined on some occasions instead of the right star.

The parabolic elements for May 4th and May 11th were calculated and are tabulated below, with the corresponding elements for Comet Halley:—

	G.M.T.	α	δ	i	q	Ω	π	π-Ω
Comet Halley,				163° 12′	0.5869	57° 16′	168° 58′	111° 42′
Aquarids,	May 4.97	334°.0	—3°.4	166 15	0.6770	44 4	156 6	112 2
Aquarids,	“ 11.99	342 .0	—0 .6	166 41	0.6297	50 51	155 7	104 16

The close resemblance of the elements leaves no reasonable doubt that these meteors were intimately connected with the comet in time past and that they are now moving in nearly identical orbits.

It is a matter of interest to notice the decided eastward shift of the radiant between the two dates and also to mention that May 6th seems the latest date on which these meteors were ever before observed. Chas. P. Olivier.

Classification of the Hydrogen (*Hα*) Flocculi.

The prime characteristic of the hydrozen flocculi, as photographed with the *Hα* line, is their tendency to assume regular and distinctive structural forms. While these forms vary widely in character, three principal types, designated provisionally *unipolar, bipolar,* and *multipolar,* may be recognized as follows:—

Unipolar, usually surrounding single (or close double) sunspots, but sometimes found where no spot is present; the form resembles that of a simple vortex, either right-handed or left-handed.[1]

Bipolar, usually associated with two spots of opposite polarity, which are in most cases at opposite ends of a spot-group. Sometimes one or both of the spots may be absent, or replaced by a bright flocculus. The flocculi closely resemble the lines of force uniting the north and south poles of a bar magnet. Many variations of this structure occur, usually in connection

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[1] For examples of this type, see *Nature,* **82,** 23, Fig. 4, November, 1909.